



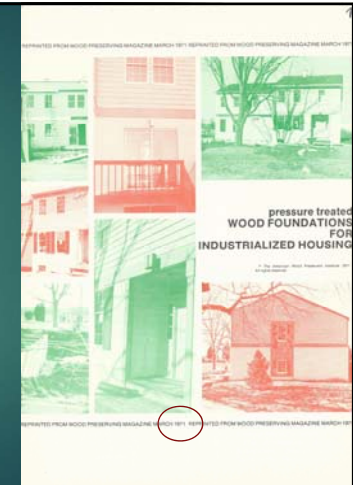
## The PWF history

- ▶ PWF have been around a long time!!



## The PWF history

- ▶ PWF have been around a long time!!
- ▶ "They have been around for over 30 years"



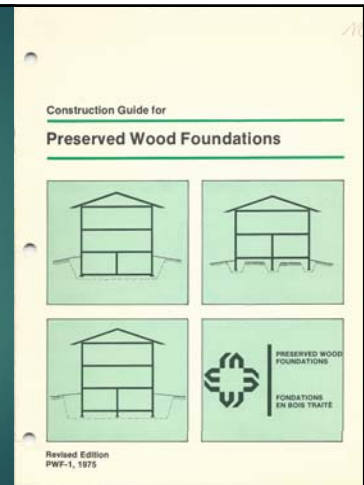
## The PWF history

- ▶ PWF have been around a long time!!
- ▶ In 1971 the NFPA provided a guide for the design and construction of the "All-Weather Wood Foundation System" which has been "accepted by the US federal Housing Administration for mortgage insurance."



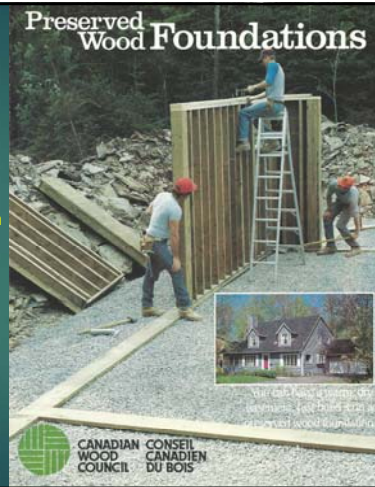
## The PWF history

- ▶ PWF have been around a long time!!
- ▶ In the mid 1970's there was a lot of interest in building PWF's
- ▶ But there were NO standards
- ▶ The CWC had issued a Construction GUIDE in 1975



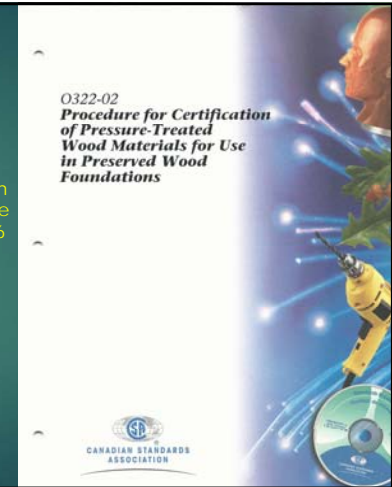
## The PWF history

- ▶ PWF have been around a long time!!
- ▶ Promotion of the PWF system was strong
- ▶ The CWC provided literature on the construction methodology



## The PWF history

- ▶ PWF have been around a long time!!
- ▶ The first CSA 0322 Procedure for the Certification of Pressure Treated Wood Materials for Use in the Preserved Wood Foundation System was in 1976
- ▶ It was replaced with version #2 in 2002



## The PWF history

- ▶ PWF have been around a long time!!
- ▶ Promotion of the PWF system was strong
- ▶ The CITW provided literature on the construction methodology in 1975
- ▶ But there were still no standards!



## The PWF history

- ▶ PWF have been around a long time!!
- ▶ The first CSA Construction of Preserved Wood Foundations CAN3-S406-M83 appeared in 1983
- ▶ It was replaced with version in 2014

This is the first edition of CSA Standard CAN3-S406-M, Construction of Preserved Wood Foundations. It is written in SI (metric) units.

Previously, the principal Canadian source of information on this subject was the Construction Guide for Preserved Wood Foundations, PWF-1, issued by the Canadian Wood Council. Although the Construction Guide has been referenced in some building codes, it was not prepared to be used as a specification or a standard, not being written in mandatory language, but only as a guide.

The purpose of CSA Standard CAN3-S406-M is to provide a standard for the construction of preserved wood foundations that can be referenced in building codes and whose requirements, written in mandatory language, can be legally enforced by regulatory authorities.

## The PWF history

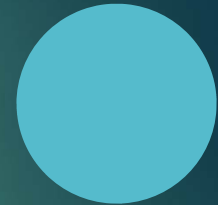
- ▶ PWF have been around a long time!!
- ▶ The first CSA Construction of Preserved Wood Foundations CAN3-S406-M83 appeared in 1983
- ▶ It referenced the treated wood standard 080.15 1980

Canadian Standards Association (CSA)  
B111-1974,  
Wire Nails, Spikes and Staples;  
  
080.15,  
Preservative Treatment of Wood for Building  
Foundation Systems, Basements and Crawl Spaces  
by Pressure Process, as amended to 1980;

May, 1983

## The PWF – the system

- ▶ PWF construction in the early days was very fluid
- ▶ It often was a hybrid of conventional construction and wood foundations
- ▶ The drainage system was not really defined;
- ▶ The labelling of treated wood for PWF uses had not been introduced;
- ▶ Inspectors were not really well informed of the PWF requirements



## The PWF history

- ▶ PWF have been around a long time!!
- ▶ The CSA introduced a certification program for treating plants and published the first list in 1983

Preserved Wood Foundation Certification  
Program and List of CSA Certified Plants



## The PWF – the system

Phase 1 - Excavation





## The PWF – the system

Phase 2 – Framing with treated wood



## The PWF – the system

Phase 3 – Continue framing above the treated wood PWF



## The PWF – the system

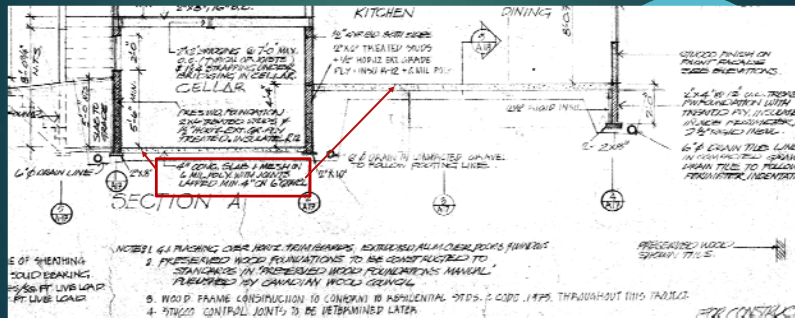
Phase 2 – Sheath with treated plywood  
Sealing joints



## Case study – Cooperative housing

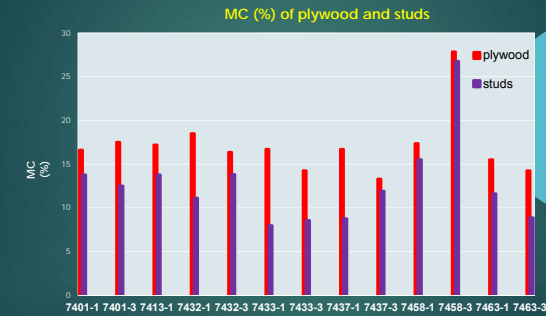


## Case study – Cooperative housing



Built Nov. 1977

## Case study – Cooperative housing



## Case study – Cooperative housing

Protocol used:

- ▶ Inspect the basements from the inside;
- ▶ No disturbance of the plywood or outer sheathing;
- ▶ Measure MC%
- ▶ Sample studs in at least 6 units
- ▶ Sample 2 separate locations in each foundation
- ▶ Recover cores from studs – one edge and one face
- ▶ Determining penetration and content for each core

## Case study – Cooperative housing



## Case study – Cooperative housing



## Case study – Cooperative housing



## Case study – Cooperative housing



## Case study – Cooperative housing







## Case study – Cooperative housing

### Conclusions and Next steps

- There is a need for a protocol for inspecting PWFs
- It should address separately PWFs
  - a) from before the CSA standard and
  - b) those after the introduction of the standard
- Early PWF lumber may be undertreated since the incising patterns were inadequate